



US006757710B2

(12) **United States Patent**  
**Reed**

(10) **Patent No.:** **US 6,757,710 B2**  
(45) **Date of Patent:** **Jun. 29, 2004**

(54) **OBJECT-BASED ON-LINE TRANSACTION INFRASTRUCTURE**

- (75) Inventor: **Drummond Shattuck Reed**, Seattle, WA (US)
- (73) Assignee: **OneName Corporation**, Seattle, WA (US)
- (\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 168 days.
- (21) Appl. No.: **10/068,341**
- (22) Filed: **Feb. 5, 2002**
- (65) **Prior Publication Data**
- US 2002/0095454 A1 Jul. 18, 2002

**Related U.S. Application Data**

- (63) Continuation of application No. 09/570,675, filed on May 15, 2000, now Pat. No. 6,345,288, which is a continuation of application No. 09/143,888, filed on Aug. 31, 1998, now Pat. No. 6,088,717, which is a continuation of application No. 08/722,314, filed on Sep. 27, 1996, now Pat. No. 5,862,325, which is a continuation-in-part of application No. 08/609,115, filed on Feb. 29, 1996, now Pat. No. 6,044,205.
- (51) **Int. Cl.**<sup>7</sup> ..... **G06F 15/15**
- (52) **U.S. Cl.** ..... **709/203; 709/200; 709/201; 709/217; 709/229; 705/26**
- (58) **Field of Search** ..... **709/200-203, 709/212, 216-219, 227-229, 232, 242, 244; 707/1, 9-10, 100-104, 200-204; 705/14, 26-27, 44; 713/200-201**

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*Primary Examiner*—Bharat Barot

(74) *Attorney, Agent, or Firm*—Wolf, Greenfield & Sacks, P.C.

(57) **ABSTRACT**

An automated communications system operates to transfer data, metadata and methods from a provider computer to a consumer computer through a communications network. The transferred information controls the communications relationship, including responses by the consumer computer, updating of information, and processes for future communications. Information which changes in the provider computer is automatically updated in the consumer computer through the communications system in order to maintain continuity of the relationship. Transfer of metadata and methods permits intelligent processing of information by the consumer computer and combined control by the provider and consumer of the types and content of information subsequently transferred. Object oriented processing is used for storage and transfer of information. The use of metadata and methods further allows for automating may of the actions underlying the communications, including communication acknowledgements and archiving of information. Service objects and partner servers provide specialized data, metadata, and methods to providers and consumers to automate many common communications services and transactions useful to both providers and consumers. A combination of the provider and consumer programs and databases allows for additional functionality, including coordination of multiple users for a single database.

**9 Claims, 47 Drawing Sheets**

